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In the Claims:

1. (Currently amended) A method of welding comprising the steps of:

during welding, identifying a transition between a first mode of operation during which no spatter is produced, and a second mode of operation during which a minimal some amount of spatter is produced; and

adjusting a power supply voltage whereby such that welding occurs under conditions associated with said transition; whereby

wherein said step of identifying said transition comprises identifying near zero voltage fluctuations in said power supply voltage.

- 2. (Original) The method as claimed in claim 1 further comprising automatically adjusting said power supply voltage.
- 3. (Currently amended) The method as claimed in any one of claims 1 or claim 2 further comprising in claim 1, wherein adjusting said power supply voltage comprises continually adjusting said power supply voltage.
- 4. (Currently amended) The method as claimed in any one of claims 1 to 3 further comprising performing a whole welding process under said conditions in claim 1, wherein welding comprises a whole welding process under said conditions.
- 5. (Currently amended) The method as claimed in <u>claim 1</u>, any one of claims 1 to 4 further comprising: the steps of;

monitoring near zero power supply voltage signals during welding; and determining when an onset of near zero voltage fluctuations occurs, said onset indicating a transition from said first to said second mode of operation.

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- 6. (Currently amended) The method as claimed in any one of claims 1 to 5 comprising a method of in claim 1, wherein welding comprises pulsed metal inert gas (MIG) welding.
- 7. (Currently amended) A method of welding comprising the steps of: during a welding process, identifying near zero voltage fluctuations in a power supply voltage; and responsive to the detection of said fluctuations adjusting said power supply voltage.
- 8. (Original) The method as claimed in claim 7 further comprising automatically adjusting said power supply voltage.
- 10. (Currently amended) The method as claimed in <u>claim 7</u> any one of claims 7 to 9 further comprising:

during welding adjusting <u>said</u> power supply voltage responsive to variations in weld set up conditions.

- 11. (Currently amended) The method as claimed in <u>claim 7</u>, wherein welding comprises any one of claims 7 to 10 comprising a method of pulsed metal inert gas (MIG) welding.
- 12. (Currently amended) A welding Welding apparatus for providing predetermined weld conditions during a welding process comprising:

a main electrode for forming molten metal and an arc between the electrode and a work target;

a power supply arranged to supply a power supply voltage to said electrode; means for identifying a transition, during welding, between a first mode of operation and a second mode of operation; and In re: Lambert et al.

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means for adjusting the power supply voltage whereby welding occurs under conditions associated with said transition; wherein said means for identifying a transition comprises means for identifying near zero voltage fluctuations in the power supply.

- 13. (Canceled)
- 14. (Canceled)

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